REMARKS

Applicant on February 26, 2009 requested a one-month extension of time to April 3, 2009 in which to respond to the December 3, 2008 official action. The one-month extension of time fee was charged to the undersigned Attorney's Deposit Account 10-0100.

Applicant further requests a two-month extension of time to May 3, 2009 in which to respond to the December 3, 2008 official action. The two-month extension fee, less the one-month paid extension fee is charged to the undersigned Attorney's Deposit Account 10-0100. No further extension of time fees is required. Should additional fees or a credit be associated with the filing of this paper, the additional fees or credit can be charged or credited to the undersigned Attorney's Deposit Account 10-0100.

Claims 74-77 are added.

Claims 24, 28, 35-37, 51, 54, 61 and 73 are rejected under 35 USC § 102(e) as allegedly being unpatentably over Futakuchi in view of Ho et al.

Claims 31-32, 34, 38-41, 43, 46, 48-50, 57-58, 60, 62-65, 67, 70 and 72 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Futakuchi in view of Geshwind.

Claims 33, 40, 42, 47, 59, 64, 66 and 71 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Futakuchi in view of Geshwind and in further view of Ho et al.

Claims 26-27 and 52-53 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Futakuchi in view of Ho et al. and further in view of

Meimer.

Claims 44-45 and 68-69 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Futakuchi in view of Geshwind in view of Ho et al. and further in view of Meimer.

Applicant respectfully traverses the rejections.

It is respectfully submitted that, as best understood, the Examiner's references to Futakuchi are difficult to identify and follow with respect to the Examiner's arguments. Despite this, the following is a good faith effort to rebut all such arguments.

The features defined by the terms "non-preprepared information" and "non-preprepared digital text" distinguish the present system from systems using previously prepared (i.e. preprepared) material pre-stored in system specific databases, such as disclosed in Futakuchi .0055, Geshwind .0098, Ho col. 7, line 53-57, Meimer .0037 and FIG.2 (212). The problem in language learning is to keep students motivated and therefore the text selection for learning materials on the basis of level of difficulty and content subject area is crucial. With static preprepared material stored in databases as described in prior art this problems remains unsolved. However, with the present invention the user, be it learner or teacher, can introduced new "non-preprepared information" like "non-preprepared digital text" and from it create learning material in the system on the fly which has then been individually adapted as to level of difficulty and content subject area.

This can further be supported in the application in these sections in the

description of the invention.

"Based on this image first a proactive dictionary can be supplied, <u>which in advance identifies and translates useful, and to the specific user unknown, words or phrases</u>; which then can be learned through the system and method. <u>Secondly personalised, both as to the level of difficulty and the subject of interest of the specific user, learning and teaching content can be supplied.</u>" (Page 1, lines 7-11 emphasis supplied).

"Finally, known textbooks or computer based learning products do not offer any personalisation more than some level adaptation and the appearance of the graphical user interface, e.g. style or number, type or layout of functionality. This is a fact, while it is well known that motivation is very important for the impact of learning. This motivation stems to a great extent from reading and learning about things that are of interest and relates to the person learning. In other words, textbooks and other learning material of today do not offer personalised content." (pg. 3, lines 4-10)

Added dependent claims 74-77 more clearly define the inventive aspect of the dynamically introduced user unknown content, over Futakuchi and the other relied on art.

Regarding independent claims 25 and 51, there is a distinct difference between the invention's characteristics to"…provide selective training according to the user's knowledge and to present a dynamic image of the knowledge status for the user in each point in time" and the referred characteristics in Futakuchi par .0047, lines 1-12 and par .0049, lines 1-5 describing a system using "tips".

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Regarding claims 29, 47, 55 and 71, Ho at col. 8, lines 46-51, refers to "learning progress" while the invention explicitly states "the knowledge". This due to the fact that the invention measures the knowledge (state of knowing fact A and fact B in each point in time) compared to the "learning progress" or "level of knowledge" (having learnt fact A or fact B at some point in time). This can further be supported in the application "Field of the Invention".

The present invention relates to a learning system and method for individual training. In particular, the invention relates to such a system and method that provide a user access at any desired time point or location to a virtual dynamic image of his or hers current knowledge status." (pg. 1, lines 5-7, emphasis supplied).

"An aspect of the present invention is to provide a system and method for learning, which provide user specific learning or teaching, whereby the system and the method estimate and/or predicts a user's knowledge in each point in time." (pg. 3, lines 16-18, emphasis supplied).

"According to yet a preferred embodiment of the invention, a diagnosis tool 20 could also be implemented for the learning tool 11, to be able to estimate the knowledge of a user within a subject before the user for a first time starts to use the learning tool 11 in a particular subject. The user then runs the testing means for a number of question/answers being selected at different hierarchical levels as describe above. The diagnosis tool then estimates all Q/A with a lower hierarchical number as being already known and is marked as "estimated knowledge". Also the tool could analyze digital texts created by the user to

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estimate the knowledge by assigning the learning state "estimated knowledge" to all identified used words and phrases." (pg. 14, lines 3-11).

Regarding Claims 30, 42, 56 and 66, it is referred to in Ho col. 7, lines 45-51, as being the "tool (21) for extracting information units from non-preprepared information…" However this reference section talks about Question Generator generating questions from the Question database (FIG 2, 110 and 118). A database is by definition preprepared and by being previously filled with data, in this case questions. Instead the invention's "tool (21) for extracting information units from non-preprepared information…" relates to the need of easily filling the database with new questions and answers (Q/A's). This is supported by "Tool for facilitating creation of Q/A's."

Referring to Fig. 4 illustrating a preferred embodiment of the invention, the apparatus 2 can also comprise a tool 21 for extracting questions from a digital text such as a document on the Internet. The tool 21 for extracting questions checks these questions with already existing questions of the system data base 10 and extracts a number of questions for which questions shall remain (without a corresponding answer). Then answers may either automatically be generated by the system or manually created by the user or administrator." (pg. 14, lines 13-20).

Regarding Claims 31, 32, 38, 57, 58 and 62, it is argued that by combining Futakuchi and Geshwind one would be able to create a "proactive dictionary (22)" as described in the invention. However, there is a misconception as there are static general system databases in Geshwind: "domain-specific glossary" and

"full English (or language of choice) dictionary" which are compared to a text entry while in the invention there is a dynamic image (changes in each point in time) of the user's knowledge states for entries in general system databases (which could be glossaries or dictionaries) to a text entry.

This is further supported by "If, for instance the subject is a language for instance Swedish/Swedish, or two different languages such as Swedish/French an intelligent dictionary operating in both directions could be provided in the system. A digital text, either known to the system and stored in a database, or previously unknown to the system, but now introduced by use of a graphical or programmatically interface, for instance a page on the Internet, or typically a large number of pages, could be checked, matched against the Q/A marked as "estimated knowledge", "knowledge" or "knowledge not further checked", to a user's profile to look up words or phrases , which are not known by the user, or in other terms: which are above a user's current level of skill, to be able to present Q/A's simultaneously as while the user is reading the text." (pg. 14, line 22, to pg. 15, line 1). See e.g. claim 77 that further defines this patentable distinction.

Further, Geshwind does not refer to a user knowledge status of the term found in the static general system databases, just that it is matched and "the definition is available for linking". In such embodiment it is the User's subjective judgment if a definition of a word or phrase is "unfamiliar". Instead in the present invention it is the system and method which deems if a concept is unknown for the user based on the virtual dynamic image of the user's knowledge. In other words the proactive dictionary (22) shows only to the user unknown terms and

phrases compared to a glossary or dictionary as described by Geshwind which shows both unknown and known.

Regarding Claims 34 and 60, as the external dictionary (24) is used by the system as an external resource in a way described in regards to claims 31, 32, 57 and 58 above it is argued that it is operation is different to a possible modification of the invention of Futakuchi in view of Geshwind.

Regarding Claims 43 and 67, there is a distinct difference between the invention's characteristics to "...provide selective training according to the user's knowledge and to present a dynamic image of the knowledge status for the user in each point in time" and the referred to characteristics in Futakuchi, at par. 0047, lines 1-12 and par. 0049, lines 1-5, describing a system using "tips".

Regarding Claims 46 and 70, the use of filter means (18) in order to further adjust the particular order of presentation of Q/A's to the user is inherently different to the described system using "tips" in Futakuchi par. 0047.

Regarding claims 33, 40, 59 and 64, these claims are amended from "... based on stated interest and level of knowledge" into "... based on stated interest and knowledge", in order to be more concise in defining the difference between "level of knowledge" and "knowledge".

Further, Geshwind explicitly describes features of Human-Computer Interaction in Expert Systems in par. 0094 and par. 0101. Exemplified by "...the system asks the teacher/author..." and "The teacher/author will also be given the opportunity to..." and "...the teacher/author will, thus, be able to direct the system...". In contrast the present invention states Computer-Computer

Interaction as texts (in a computer readable medium) are checked to a user's profile (in a database).

Regarding Ho at col. 6, lines 11-23, this section does not, in contradistinction to the present invention, refer to extraction of (to the user suitable texts and fragments of texts to be used as) teaching and learning material from other text. Instead this section is referring to where Ho describes how the Selector (102) uses the Line item database (106) to extract appropriate questions using the Question Generator (106) from the Question database (118) in FIG 2. The inherent difference is that the claims of the present invention claim a system that handles text and fragments of texts (as would be preferred for language learning), while the reference describes the handling of questions (and answers).

Regarding claims 26, 44, 52 and 68, Ho describes the importance of repetition and review. However, Ho then describes the need to review after a number of weeks and a system with a prescribed "peak" when it is best for the User to review deemed by an equation. Why the need to review is decreasing after the "peak" is argued in line 40-50 as to be determined by the arranging of study into semesters. In contrast, the present invention is not constrained by the arrangement of study as prescribed by institutions like schools and universities, instead it is only taking into account the ability to learn and retain knowledge (as a result of the response to estimation/prediction by the system according to the invention). This is supported by "long term learning cycle".

The learning tool 11 may also be connectable to a test and repetition tool 19

for optimized long term repetition. This test and repetition tool 19 can also be implemented in the learning tool 11, but in this case typically provided with a limited functionality, whereby data is stored in the learning tool for further transfer to the apparatus at a later stage. A point of time when a Q/A is marked as "knowledge" for a particular user is stored within this test and repetition tool 19. The time $T_{next\ test}$ to which the user has to answer this question again, i. e. to be able to control his knowledge is controlled by this test and repetition tool 19. If no repetition or test is made to prolong the time $T_{next\ test}$, then the point in time $T_{next\ test}$ expires and the state of the Q/A is changed from "knowledge" to "test required". If no test is done by the user the virtual dynamic image of his acquired knowledge in the system deteriorates over time until all Q/A marked as knowledge changes state to "test required", meaning that the system database 10 can be considered dynamic. At a point in time when test of a Q/A is performed by the user through the test and repetition tool 19 the Q/A question is posed to the user. If the answer to a question is wrong, this Q/A changes state to "repetition required". When repetition has been duly performed using the short term learning cycle, the time period $T_{next\ test}$ until the time point when this question must be tested again, is extended by a lower factor, say a factor zero point eight (0.8). If, on the contrary, the Q/A is correctly answered at a test, the state of the Q/A changes to "knowledge" and the time period $T_{next\ test}$ until the time point when this question must be tested again, is extended by a higher factor, say a factor two (2). If time has passed between the $T_{next\ test}$ expired and the user started the test for the Q/A, this time is added to the $T_{next\ test}$ before the extension factor is

applied. When this time period $T_{next\ test}$ is longer than a predetermined time period, this Q/A is marked as "knowledge not further checked", but still kept in the system." (pg. 12, line 19, to pg. 13, line 14).

It is argued that a further combination of Meimer with Futakuchi and Ho could be modified to correspond to the present claim 26 with a test and repetition tool (19). However, FIG 3 actually prescribes a Leitner type system as referred to in the application.

"An example of an improved way of using flashcards was researched by the German psychologist Sebastian Leitner in the early 1970s. He described a so-called "learning machine" consisting of five or more consecutive compartments, whereby a flashcard in one compartment is transferred to the next compartment if a question is correctly answered by a user, or transferred to the first compartment in case of a wrong answer." (pg.11, lines 21-25).

Meimer has indeed introduced a time component, but Meimer is prescribing a system with fixed levels which assigns this specific level's "new retest time interval" (FIG. 4, label 428), while the embodiment of the present invention is prescribing a system with an unlimited number of states or a progressive scale with no fixed levels and an unlimited number of variations of time intervals between testing and repetition.

Regarding Claim 27, 45, 53 and 69, Meimer indeed talks about something which could be viewed as "sorting" as described by the present invention's sorting tool (27). However Meimer only talks about (randomly) mixing the questions between learning sessions. In contrast the present invention describes
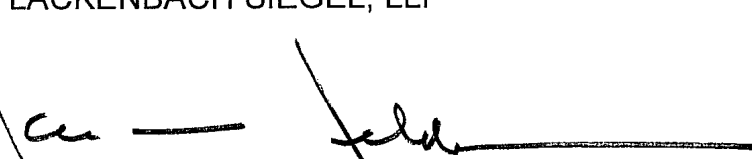
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a sorting algorithm which takes into account the short term learning ability of the User. This is supported by "according to a preferred embodiment of the invention, the learning tool 11 also comprises a sorting tool 17 for optimised short term learning of Q/A's. This sorting tool 17 sorts a Q/A which has been correctly answered, so that it is presented again after a large number of other Q/A's have been posed, alternatively after a considerably longer time period than incorrectly answered questions. For an incorrectly answered Q/A the sorting tool 17 sorts the Q/A so that it is presented again after a lesser number of other Q/A's have been posed, alternatively after a considerably shorter time period than correctly answered questions. Alternatively or in combination, random generation, typically provided by means of a random generator, could be used as a variable presenting the order which the learning tool 11 presents new Q/A's to the user. After the user has answered a question correctly a sufficient number of times, specified by an administrator of the system, typically set in the administration means 7 in the apparatus 2 in Fig. 2, this Q/A is transferred to the system data base 10 and is marked as "knowledge" for the user at a certain time point and an associated variable $T_{next\ test}$, being the time to which the user has to answer this question again, is thereby updated." (pg. 11, lines 12-26).

For each and all of the foregoing reasons, the amended and added claims patentably distinguish over Futakuchi alone and in the several alleged combinations of relied on art.

An early allowance is respectfully requested.

Respectfully submitted,

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